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EXAMINER

ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 02/12/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/443,026

Applicant(s)

DIAMANT, NIMROD

Examiner

Charles E Anya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-22, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-22, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 20,21,28 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,253,334 B1 to Amdahl et al.**

3. As to claim 20, a method for redundant networking in a network environment, comprising:
determining operative status of a first network interface having a first driver (“...status...” Col. 9 Ln. 16 – 63), and of a second network interface having a second driver with a driver memory for storing a MAC address for said second interface, if the first network interface is inoperative, instructing the second driver to store the first network interface MAC address in the driver memory to allow processing by the second network interface of network traffic bound for the first network interface (“...node address...” Col. 9 Ln. 63 – 67), directing the second driver to activate the second network interface, and directing the first driver to deactivate the first network interface (“...resetting...” Col. 10 Ln. 1 – 5).

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4. As to claim 21, Amdahl teaches a method according to claim 20, in which the network environment is a Novell based network, and wherein ODI commands are issued to said first and second drivers (Novell Netware Implementation Col. 6 Ln. 21 – 67).
5. As to claim 28, Amdahl teaches a method for enhancing data network communication comprising: receiving network traffic for a network interface having a first node address (“...probe packet...” Col. 9 Ln. 53 – 67), updating a stored node address stored in a receive address filtering table for a second network interface, and in a base driver for the second network interface, with the first node address (“...node address...” Col. 9 Ln. 63 – 67, Col. 10 Ln. 1 – 13), and routing the received network traffic to the second network interface (“...sending and receiving...” Col. 11 Ln. 31 – 35).
6. As to claim 29, Amdahl teaches the method of claim 28, wherein said receiving network traffic is performed by an intermediary configured to determine unavailability of the first network interface and automatically update the stored node address of the second network interface filtering table and its base driver so that the second network interface may transparently operate as if it were the first network interface (“...MULTISPAN...” Col. 9 Ln. 53 – 67).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1-3,6,11-14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,253,334 B1 to Amdahl et al. in view of U.S. Pat. No. 6,308,282 B1 to Huang et al.

9. As to claim 1, Amdahl teaches an application programming interface (API) for enhancing data network communication, comprising: an identify address function including programming instructions for identifying a stored node address stored by a base driver for a network interface associated with the base driver (LSLRegisterMLIDRTag Col. 8 Ln. 42 – 61).

Amdahl is silent with reference to an update node address function including programming instructions for directing the base driver to update the stored node address with a new node address in a configuration storage of the base driver, and in a receive address filtering table for the network interface.

Huang teaches an update node address function including programming instructions for directing the base driver to update the stored node address with a new node address in a configuration storage of the base driver, and in a receive address filtering table for the network interface ("...UpdateAddr() call..." Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to make such a modification in order to initialize a network node's MAC address (Col. 13 Ln. 66 – 67).

10. As to claim 2, Amdahl as modified in claim 1 is silent with reference to the API of claim 1, wherein the identify address function includes submitting a request to the base driver, to which is received a response including the node address stored by the base driver.

Huang teaches the API of claim 1, wherein the identify address function includes submitting a request to the base driver, to which is received a response including the node address stored by the base

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driver (“...reply...” Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to make such a modification in order to initialize a network node (Col. 13 Ln. 65 – 67).

11. As to claim 3, Amdahl as modified in claim 1 teaches the API of claim 1, wherein the identify address function includes programming instructions for inspecting the configuration storage of the base driver, such storage having an entry identifying the stored node address (Col. 8 Ln 54 – 61).

12. As to claim 6, an article of manufacture, comprising a computer readable medium having encoded thereon programming instructions capable of directing a processor to perform operations of: an identify address function for identifying a stored node address stored by a base driver for a network interface associated with the base driver (LSLRegisterMLIDRTag Col. 8 Ln. 42 – 61). Amdahl is silent with reference to an update node address function for directing the base driver to update the stored node address with a new node address in a configuration storage of the base driver, and in a receive address filtering table for the network interface.

Huang teaches an update node address function for directing the base driver to update the stored node address with a new node address in a configuration storage of the base driver, and in a receive address filtering table for the network interface (“...UpdateAddr() call...” Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to makes such a modification in order to initialize a network node’s MAC address (Col. 13 Ln. 66 – 67).

13. As to claim 11, Amdahl as modified in claim 1 teaches an API according to claim 1 for providing transparent fail-over from a first network interface to a second network, interface, further

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comprising: a status function including programming instructions for polling a first base driver for the first network interface to detect a failure of said first network interface (“...status...” Col. 9 Ln. 16 – 63).

Amdahl as modified in claim 1 is silent with reference to the update node address function includes a function to direct a second base driver for the second network interface to store the node address of the first network interface as the stored node address for the second base driver.

Huang teaches the update node address function includes a function to direct a second base driver for the second network interface to store the node address of the first network interface as the stored node address for the second base driver (“...UpdateAddr() call...” Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to makes such a modification in order to initialize a network node's MAC address (Col. 13 Ln. 66 – 67).

14. As to claim 12, Amdahl as modified in claim 11 teaches an API according to claim 11, in which a Novell ODI compliant-network is utilized for network communication, and wherein the update node address function uses at least one ODI MLID Control Routine (Novell Netware Implementation Col. 6 LN. 21 – 46, Fig 3 Primary MLID Driver 120).

15. As to claim 13, an article of manufacture, comprising a computer readable medium having encoded thereon instructions to direct a processor to perform an API having: an identify address function for identifying a stored node address stored by a base driver for a network interface associated with the base driver (LSLRegisterMLIDRTag Col. 8 Ln. 42 – 61), a status function in communication with a first base driver for the first network interface to detect a failure of the first network interface (“...status...” Col. 9 Ln. 16 – 63), and a fail-over function to direct a second base

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driver for the second network interface to store the node address of the first network interface as the stored node address for the second base driver, and to store the node address of the first network interface in a receive address filtering table for the second network interface (“...node address...” Col. 9 Ln. 63 – 67, Col. 10 Ln. 1 – 13).

Amdahl is silent with reference to an update node address function for directing the base driver to update the stored node address with a new node address.

Huang teaches an update node address function for directing the base driver to update the stored node address with a new node address (“...UpdateAddr() call...” Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to make such a modification in order to initialize a network node's MAC address (Col. 13 Ln. 66 – 67).

16. As to claim 14, Amdahl as modified in claim 1 teaches an API according to claim 1 for providing transparent load balancing of data transmissions directed towards the network interface by distributing such data across a second network interface (“...load sharing...” Col. 8 Ln. 1 – 21), further comprising: a queue monitoring function including programming instructions for detecting a workload of the first network interface, and a distribution function including programming instructions for routing a portion of said data transmissions through the Second network interface (MULTISPAN Prescan Module 10 Col. 8 Ln. 8 – 14) and said distribution function utilizing the update node address function to associate the node identifier of the first network interface with the second network interface (“...UpdateAddr() call...” Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8).

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17. As to claim 26, Amdahl teaches a system, comprising: means for identifying a stored node address stored by a base driver for a network interface associated with the base driver (LSLRegisterMLIDRTag Col. 8 Ln. 42 – 61).

Amdahl is silent with reference to a means for directing the base driver to update the stored node address with a new node address.

Huang teaches a means for directing the base driver to update the stored node address with a new node address (“...UpdateAddr() call...” Col. 13 Ln. 64 – 67, Col. 14 Ln. 1 – 8). It would have been obvious to apply the teaching of Huang to the system of Amdahl. One would have been motivated to make such a modification in order to initialize a network node's MAC address (Col. 13 Ln. 66 – 67).

18. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,253,334 B1 to Amdahl et al. in view of U.S. Pat. No. 6,308,282 B1 to Huang et al. as applied claim 1 and further in view of “The Design of A low Cost Local Area Network Using Netware” to Fu et al. (pages 40 – 43).

19. As to claim 4, Amdahl as modified in claim 1 teaches an API according to claim 1, further comprising: a driver identification function including programming instructions for sending an identity-check request to the base driver (NETCFG command/LSLRegisterMLIDTag Col. 8 Ln. 32 – 53).

Amdahl as modified in claim 1 is silent with reference to the base driver providing a response selected from a group consisting of: a predetermined identifier, a base driver revision number, and an identification of a vendor of the base driver.

Fu does not explicitly teach these limitations, however, Fu teaches that the MLID drivers registers information about themselves with the LSL. This information includes network card information. A

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predetermined identifier, a base driver revision number and identification of a vendor of the base driver are driver and network card information and are therefore implied. It would have been obvious to apply the teaching of Fu to the system of Amdahl. One would have been motivated to make such modifications in order to route data in packets for transmission (figure 2 page 41 line 5 – 34).

20. As to claim 5, see the rejection of claim 4.

21. Claims 15-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,253,334 B1 to Amdahl et al. in view of U.S. Pat. No. 6,131,163 to Weigel.

22. As to claim 15, Amdahl teaches receiving first network traffic with a protocol stack/sending the first traffic to an intermediary layer (MULTISPAN Driver 508 Col. 11 Ln. 1 – 22), identifying a failed network interface having a node address and storing the node in the node address memory (“...node address...” Col. 9 Ln. 63 – 67).

Amdahl is silent with reference to routing the first traffic to a virtual interface driver, repackaging the first traffic by the virtual interface driver and providing the repackaged traffic to a virtual protocol stack and sending the repackaged traffic to the intermediary layer and routing the repackaged traffic by the intermediary layer to an interface driver.

Weigel teaches routing the first traffic to a virtual interface driver (Protocol Proxy Manager 350 Col. 9, Ln. 1 – 22), repackaging the first traffic by the virtual interface driver and providing the repackaged traffic to a virtual protocol stack (Protocol Proxy Manager 350 Transport Layer Col. 8, Ln. 66 – 67, Col. 9, Ln. 1 – 22: NOTE: Protocol Proxy Manager act as transport layer for the proxy protocol layers), sending the repackaged traffic to the intermediary layer and routing the repackaged traffic by the intermediary layer to an interface driver (Communication Path 356 Driver Support layer 306 Col.

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7, Ln. 13 – 15). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such modification in order to transmit data packets to the appropriate protocol stack (Col. 7 Ln. 3 – 12).

23. As to claim 16, Amdahl as modified in claim 15 teaches a method according to claim 15, further comprising: routing network traffic for the failed network interface through the fail-over network interface (“...switch-over...” Col. 9 Ln. 63 – 67).

24. As to claim 17, Amdahl as modified in claim 16 is silent with reference to a method according to claim 16, further comprising: wherein said first network traffic is received in a first protocol format, and said repackaged traffic is in a second network protocol format different from the first protocol format.

Weigel teaches a method according to claim 16, further comprising: wherein said first network traffic is received in a first protocol format, and said repackaged traffic is in a second network protocol format different from the first protocol format (“...convert...” Col. 7 Ln. 3 – 12, “...reformats...” Col. 7 Ln. 55 – 67). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such a modification in order to make packet content conform to a particular protocol (Col. 17 Ln. 7 – 12).

25. As to claim 18, Amdahl as modified in claim 16 teaches a method according to claim 16, wherein locating the fail over network interface comprises: submitting a node identification request to a base driver for a potential fail over network interface; (MULTISPAN driver...” Col. 11 Ln. 23 – 67). Amdahl does not explicitly teaches receiving a response from said driver, said response including an authentication string; verifying said authentication string has a predetermined value before said

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potential fail over network interface is used as the fail over network interface. However, these steps would be inherent in Amdahl because in the event that the NIC/driver that receives the "probe packet" has not failed, it must send back some indication that it has not failed like "I am alive message" which happens to be authentication string.

26. As to claim 19, Amdahl teaches an article of manufacture, comprising a computer readable medium having encoded thereon instructions to direct a processor to perform the operations of receiving: first network traffic with a protocol stack/sending the first traffic to an intermediary layer (MULTISPAN Driver 508 Col. 11 Ln. 1 – 22), identifying a failed network interface having a node address and storing the node in the node address memory ("...node address..." Col. 9 Ln. 63 – 67). Amdahl is silent with reference to routing the first traffic to a virtual interface driver, repackaging the first traffic by the virtual interface driver and providing the repackaged traffic to a virtual protocol stack and sending the repackaged traffic to the intermediary layer and routing the repackaged traffic by the intermediary layer to an interface driver.

Weigel teaches routing the first traffic to a virtual interface driver (Protocol Proxy Manager 350 Col. 9, Ln. 1 – 22), repackaging the first traffic by the virtual interface driver and providing the repackaged traffic to a virtual protocol stack (Protocol Proxy Manager 350 Transport Layer Col. 8, Ln. 66 – 67, Col. 9, Ln. 1 – 22: NOTE: Protocol Proxy Manager act as transport layer for the proxy protocol layers), sending the repackaged traffic to the intermediary layer and routing the repackaged traffic by the intermediary layer to an interface driver (Communication Path 356 Driver Support layer 306 Col. 7, Ln. 13 – 15). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such modifications in order to transmit data packets to the appropriate protocol stack (Col. 7 Ln. 3 – 12).

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27. As to claim 22, Amdahl as modified in claim 21 teaches a method according to claim 21, further comprising: receiving first network traffic by a protocol stack/forwarding said first network traffic to a LSL (MULTISPAN Driver 508 Col. 11 Ln. 1 – 22).

Amdahl as modified in claim 21 is silent with reference to routing said first network traffic from the LSL to a virtual MLID Protocol Proxy Manager 350 Col. 9, Ln. 1 – 22), and deriving second network traffic from said first network traffic (Protocol Proxy Manager 350 Transport Layer Col. 8, Ln. 66 – 67, Col. 9, Ln. 1 – 22: NOTE: Protocol Proxy Manager act as transport layer for the proxy protocol layers), providing said second network traffic to a virtual protocol stack and forwarding said second network traffic to the LSL (Communication Path 356 Driver Support layer 306 Col. 7, Ln. 13 – 15). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such modifications in order to transmit data packets to the appropriate protocol stack (Col. 7 Ln. 3 – 12).

28. Claims 7,9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,253,334 B1 to Amdahl et al. in view of U.S. Pat. No. 6,308,282 B1 to Huang et al. as applied to claims 1 and 26 above, and further in view of U.S. Pat. No. 6,131,163 to Weigel.

29. As to claim 7, Amdahl as modified in claim 1 is silent with reference to an API according to claim 1, further comprising: a first transmission function including programming instructions for re-transmitting data, received in a compatible format from a network source, in an incompatible format to a network destination; and second transmission function including programming instructions for re-transmitting data, received in the incompatible format from the network destination, in the compatible format to the network source.

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Weigel teaches a first transmission function including programming instructions for re-transmitting data, received in a compatible format from a network source, in an incompatible format to a network destination; and second transmission function including programming instructions for re-transmitting data, received in the incompatible format from the network destination, in the compatible format to the network source (“...convert...” Col. 7 Ln. 3 – 12, “...reformats...” Col. 7 Ln. 55 – 67, Step 426 Col. 11 Ln. 26 – 31). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such a modification in order to make packet content conform to a particular protocol (Col. 11 Ln. 26 – 31).

30. As to claim 9, Amdahl as modified in claim 7 teaches an API according to claim 7, further comprising: a virtual LAN function including programming instructions to direct the base driver to enter a desired virtual LAN operative state (“...selects...IN_USE state...” Col. 11 Ln. 23 – 52) and a disconnect function including programming instructions to notify the base driver that the API has concluded communications with the base driver (“...disables...DISABLED state...” Col. 11 Ln. 23 – 52).

31. As to claim 27, Amdahl as applied to claim 26 is silent with reference to a system according to claim 26, further comprising: means for re-transmitting data, received in a first format from a network source, in a second format to a network destination; and means for re-transmitting data, received in the second format from the network destination, in the first format to the network source.

Weigel teaches a system according to claim 26, further comprising: means for re-transmitting data, received in a first format from a network source, in a second format to a network destination; and means for re-transmitting data, received in the second format from the network destination, in the first format to the network source (“...convert...” Col. 7 Ln. 3 – 12, “...reformats...” Col. 7 Ln. 55 – 67,

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Step 426 Col. 11 Ln. 26 – 31). It would have been obvious to apply the teaching of Weigel to the system of Amdahl. One would have been motivated to make such a modification in order to make packet content conform to a particular protocol (Col. 11 Ln. 26 – 31).

32. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,253,334 B1 to Amdahl et al. in view of U.S. Pat. No. 6,308,282 B1 to Huang et al. and further in view of U.S. Pat. No. 6,131,163 to Weigel as applied to claims 7 above and further in view of U.S. Pat. No. 6,381,218 B1 to McIntyre et al.

33. As to claim 8, Amdahl as modified in claim 7 is silent with reference to an API according to claim 7, further comprising: a report capabilities function including programming instructions for sending the base driver a request to have the base driver report its capabilities, a receive capabilities function including programming instructions for receiving a response including said capabilities. McIntyre teaches to an API according to claim 7, further comprising: a report capabilities function including programming instructions for sending the base driver a request to have the base driver report its capabilities, a receive capabilities function including programming instructions for receiving a response including said capabilities (“...reports the status...” Col. 16 Ln. 15 – 28). It would have been obvious to apply the teaching of McIntyre to the system of Amdahl. One would have been motivated to make such a modification in order to update the graphic display (Col. 16 Ln. 25 – 28).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya
Examiner
Art Unit 2126

cea


MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
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